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**U.S. PATENT APPLICATION**

Title: Systems and Methods for Providing Contextual Advertising Information  
via a Communication Network

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**SYSTEMS AND METHODS FOR PROVIDING  
CONTEXTUAL ADVERTISING INFORMATION VIA A  
COMMUNICATION NETWORK**

**CROSS-REFERENCE TO RELATED APPLICATIONS**

The present application claims priority under 35 U.S.C. § 119(e) to (i) U.S. Provisional Patent Application No. 60/443,511 entitled "Systems and Methods for Providing an Improved Toolbar," (ii) U.S. Provisional Patent Application No. 60/443,513  
5 entitled "Systems and Methods for Providing Locally Determined Contextual Advertising Information via a Communications Network," and (iii) U.S. Provisional Patent Application No. 60/443,512 entitled "Systems and Methods For Selecting Graphical Advertisements To Be Provided To Users via a Communication Network," all filed in the name of Margiloff et al. on January 29, 2003. The present application is also related to  
10 (i) U.S. Patent Application No. \_\_/\_\_,\_\_ entitled "Systems and Methods for Providing an Improved Toolbar" and (ii) U.S. Patent Application No. \_\_/\_\_,\_\_ entitled "Systems and Methods for Selecting Graphical Advertisements To Be Provided To Users via a Communication Network," filed concurrently herewith. The entire contents of these applications are incorporated herein by reference.

15 **FIELD**

The present invention relates to advertising information. In particular, the present invention relates to systems and methods for providing contextual advertising information via a communication network.

**BACKGROUND**

20 It is known that contextual advertising information can be locally determined for a user. For example, a local advertising application can execute at a user's Personal Computer (PC) while he or she accesses web sites. These advertising applications may,

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for example, select an advertisement to be displayed to the user based on a Uniform Resource Locator (URL) address associated with a web page that the user is currently viewing. Some advertising applications display advertisements to a user while the user is "offline". In other words, advertisements may also be locally determined and/or displayed  
5 during periods in which a user may not be connected to the Internet.

It might be the case, however, that the selected advertisement should not be displayed to that particular user. In other words, although an advertisement may be contextual (*e.g.*, related to the current URL being visited by a user), the advertisement may not be appropriate. For example, the advertisement might be associated with a  
10 restaurant in New York City - but the user might currently be in California. Similarly, the user might have recently seen an advertisement for the same product or service. In some cases, the user may have even already purchased the item being advertised.

Moreover, the user might not realize that the advertisement is being provided by a third party (*i.e.*, a party not necessarily associated with the web page he or she is  
15 currently viewing). In existing systems, for example, a user might be confused as to whether an advertisement is associated with a particular web site, URL, corporation, or other entity.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a block diagram overview of a system according to some embodiments.  
20 FIG. 2 is a flow chart of a method according to some embodiments.  
FIG. 3 illustrates a user display according to some embodiments.  
FIG. 4 is a block diagram of a user device according to some embodiments.  
FIG. 5 is a portion of an advertisement database according to some embodiments.  
FIG. 6 illustrates a user display according to some embodiments.

**25 DETAILED DESCRIPTION**

Some embodiments described herein are associated with "advertising information." As used herein, the term "advertising information" may refer to, for

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example, an advertisement for a product and/or service, a coupon, or any other commercial information that is provided to a user (*e.g.*, including text, graphical, audio, video, and/or executable information). In some embodiments, advertising information may include, for example, product information, press releases, articles, opinions, testimonials, and/or commercials. In some embodiments advertising information may be "contextual". As used herein, the term "contextual", as used within the term "contextual advertising information", may generally refer to any advertising information that is related to, connected to, linked to, correlated to, bears resemblance to, and/or is otherwise associated with a user, a user's actions, a user device, and/or any other characteristic associated with an intended recipient of the advertising material.

In addition, some embodiments are associated with "devices" such as a "user device" or an "advertiser device". As used herein, the term "device" (and various derivatives such as "user device", etc.) may generally refer to any device that can communicate via a network. Examples of devices include a Personal Computer (PC), a workstation, a server, a printer, a scanner, a facsimile machine, a copier, a Personal Digital Assistant (PDA), a storage device (*e.g.*, a disk drive), a hub, a router, a switch, and a communication device (*e.g.*, a modem, a wireless phone, etc.). In some embodiments, devices may comprise one or more device components. As used herein, the term "device component" may refer to a device, or a component, piece, portion, or combination of devices. Examples of device components may include a Static Random Access Memory (SRAM) device or module, a network processor, and a network communication path, connection, port, or cable.

**System Overview**

Referring first to Figure 1, a block diagram of a system 100 according to some embodiments is depicted for use in explanation, but not limitation, of described embodiments. Upon reading this disclosure, those skilled in the art will appreciate that different types, layouts, quantities, and configurations of systems may be used.

In some embodiments (such as shown in FIG. 1), the system 100 may include one or more user devices 110 that may, for example, execute a browser application 112 (*e.g.*,

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the INTERNET EXPLORER® browser application available from MICROSOFT®) and/or an advertising application 114. The browser application 112 may be used, according to some embodiments, to access information from a content server 120 via a communication network 130. For example, a user may utilize the browser application 112 to access web pages provided by one or more content servers 120 via the Internet (*e.g.*, communications network 130). According to some embodiments, the browser application 112 may be or include a software application that executes within the user device 110 (as shown in FIG. 1). In some embodiments, the browser application 112 may reside external to the user device 110 and may, for example, be accessible to the user device 110 via the communication network 130 and/or another communication network (not shown).

According to some embodiments, the user device 110 may execute an advertising application 114 that may, for example, receive information from an advertising controller 140 (*e.g.*, via the communication network 130). For example, the advertising controller 140 may access information in an advertisement database 150 and transmit that information to the advertising application 114. In some embodiments for example, a user may install the advertising application 114 on the user device 110. The advertising application 114 may, on a periodic basis for example, request updates and/or advertising information from the advertising controller 140. The advertising controller 140 may, according to some embodiments, access a lookup table and/or other information store such as the advertisement database 150 and send various forms of advertisements and/or other advertising information to the user device 110 and/or the advertising application 114.

The advertising information, according to some embodiments, may include advertisement content and/or an associated advertisement rule. For example, the advertisement rule may indicate that a particular advertisement should be displayed to the user whenever he or she searches for the word "tires" via a search engine. In some embodiments, the advertising rule may be directed to providing a user with contextual advertising information. For example, an advertisement for tire repair or other tire-related information may be provided to the user in response to the user's search for "tires". In

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other words, it may be assumed in some embodiments that because the user is searching for "tires", that the user may be interested in various aspects relating to tires.

In some embodiments, the user device 110 (and/or advertising application 114) may not receive the advertisement itself from the advertising controller 140. For example, the advertisement information sent to the user device 110 might represent information that can be used by the advertising application 114 to access the advertisement.

According to some embodiments for example, the advertising application 114 may use the advertising information to download and/or otherwise access a file from an advertiser device 160 (*e.g.*, via communications network 130). For example, the information provided to the advertising application 114 may be or include a hyperlink that points to a URL associated with one or more web pages provided by the advertiser device 160 and/or a content server 120. In some embodiments, the advertiser device 160 may be or include a content server 120. According to some embodiments, the advertiser device 160 may be or include the advertising controller 140 and/or the advertisement database 150.

As used herein, devices (such as the user device 110 and the content server 120) may communicate via the communication network 130, such as a Local Area Network (LAN), a Metropolitan Area Network (MAN), a Wide Area Network (WAN), a proprietary network, a Public Switched Telephone Network (PSTN), a Wireless Application Protocol (WAP) network, a cable television network, or an Internet Protocol (IP) network such as the Internet, an intranet or an extranet. Note that the devices shown in FIG. 1 need not be in constant communication. For example, the user device 110 may only communicate with the content server 120 via the Internet on an as-needed basis. In some embodiments, for example, the user device 110 may be a PC that intermittently utilizes a dial-up connection to the Internet via an Internet Service Provider (ISP). In other embodiments, the user device 110 may be in constant and/or high-speed communication with the content server 120 and/or with other devices through the use of any known or available connection device such as a cable or Digital Subscriber Line (DSL) modem. According to some embodiments, the communication network 130 may be or include multiple networks of varying type, configuration, size, and/or functionality.

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The user device 110, the content server 120, the advertising controller 140, and the advertiser device 160, may be any devices capable of performing the various functions described herein. The user device 110 may be, for example: a PC, a portable computing device such as a PDA, an interactive television device, or any other appropriate storage and/or communication device. Any or all of the content server 120, the advertising controller 140, and the advertiser device 160 may be, for example, a web server that provides web pages for the browser application 112 and/or that provides advertising information for the advertising application 114.

Although a single user device 110, content server 120, advertising controller 140, and advertiser device 160 are illustrated in FIG. 1, any number of these devices may be included in the system 100. Similarly, any number of other devices known, available, and/or described herein may be included in the system 100 according to some embodiments. A single content server 120 may, for example, be in communication with multiple user devices 110. In some embodiments, multiple content servers 120 may provide various information such as advertisements and/or web pages to one or more user devices 110. In some embodiments, a single device may include the functionality of one or more of the devices described herein. For example, a single web server may operate as a content server 120, an advertising controller 140, and/or an advertiser device 160.

Local Contextual Advertising Method

Turning now to FIG. 2, a flow chart of a method 200 according to some embodiments is shown. The flow diagrams described herein do not necessarily imply a fixed order to the actions, and embodiments may be performed in any order that is practicable. Note that any of the methods described herein may be performed by hardware, software (including microcode), firmware, or any combination thereof. For example, a storage medium may store thereon instructions that when executed by a machine result in performance according to any of the embodiments described herein. The method 200 shown in FIG. 2 may be performed, for example, by the advertising application 114 executing at the user device 110 (both as described above in conjunction with system 100).

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In some embodiments, the method 200 may begin, at 202, by locally determining advertising information based on (i) contextual information associated with remote information being accessed by a user, and (ii) supplemental information associated with the user. In other words, the advertising information may be determined based on both  
5 "contextual" and "supplemental" information. The determination, according to some embodiments, may be "local" in that it is performed local to a user (*e.g.*, at the user device 110). For example, the determination may be performed by the advertising application 114 described in conjunction with FIG. 1 herein. In some embodiments, the information being accessed by the user may be "remote" in that it is not stored at the user  
10 device 110 (*e.g.*, the user may be accessing a web page from a content server 120).

According to some embodiments, the "contextual" information may be used to select an advertisement to be served to the user (*e.g.*, the advertisement might be selected due to a match of a search query, content on a Web page, and/or a URL string). In some embodiments, the advertising information might be an advertisement selected based on a  
15 keyword in a web page currently being viewed by a user (or the Web page's URL address). For example, a coupon for a Laundromat may be selected when a user visits a web site having a URL, title, heading, and/or other indicator associated with washer or dryer repair. In some embodiments it may be assumed, for example, that if the user is searching for information regarding the repair of a washer or dryer, the user may have a  
20 broken washer or dryer and may need to use a Laundromat until the user's equipment is fixed. In some embodiments, the contextual information (*e.g.*, laundry) may be associated with remote content (*e.g.*, a web page containing information related to washer or dryer repair).

According to some embodiments, the contextual information may be associated  
25 with a word or phrase entered by the user (*e.g.*, when he or she types a word into a search engine). For example, an advertisement for pre-paid calling card may be selected for display to the user based on a user-entered search term of "long distance phone calls".

According to some embodiments, the contextual information may be associated with another advertisement being provided to the user. For example, if a user is provided



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with an advertisement for a particular brand and model television, an advertisement for that same television (*e.g.*, from another retailer) may be selected.

In some embodiments, the "supplemental" information associated with the user may comprise, for example, geographic information. By way of example, the advertising application 114 might have the capability of launching a contextual coupon based on the geographic mapping of a user's Internet Protocol (IP) address (*e.g.*, the advertising application 114 might target a cars.com ad to users who access autoweb.com from an IP address associated with New York state).

According to other embodiments, the supplemental information is associated with user device information. For example, the type of user device (*e.g.*, PDA or PC) might determine the advertisement that is provided to the user (or format of the advertisement).

The supplemental information might also be associated other advertising information that was previously provided to the user. For example, an advertiser might not want a user to view ten advertisements for the same product in a single day. Other examples include: minutes between two advertisements, a maximum number of impressions per target per user, a minimum number of URL's between advertisements, a maximum number of advertisements per day, a maximum number of advertisements per campaign per day, and/or a maximum number of advertisements per campaign (*e.g.*, across the entire user base). As still another example, the supplemental information may be related to whether or not the user has already purchased an item being advertised (*e.g.*, the user already subscribes to a particular wireless telephone service).

At 204, it is arranged for the advertising information to be provided to the user. For example, the advertising application 114 may arrange to have the browser application 112 create a "pop-up" browser window that displays the advertising information. FIG. 3 illustrates a user display 300 including advertising information 310 according to some embodiments of the present invention. Note that the advertising information may include any combination of graphical, text, audio, and/or any other type of multimedia information. According to some embodiments, the advertising information is provided to a user device via a communication network in substantially real time. According to other embodiments, the advertising information is provided to the user device well before

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being displayed to the user (*e.g.*, the advertising information might be downloaded to the user device on a nightly basis and displayed to the user during the day - even when the user device is not attached to the communication network).

User Device

5           FIG. 4 illustrates a user device 400 that is descriptive of the device shown in FIG. 1 according to an embodiment of the present invention. The user device 400 comprises a processor 410, such as one or more INTEL® Pentium® processors, coupled to a communication device 420 configured to communicate via a communication network (not shown in FIG. 4). The communication device 420 may be used to communicate, for  
10           example, with one or more content servers 120, advertising controllers 140, and/or advertiser devices 160. The user device 400 further includes an input device 440 (*e.g.*, a mouser and/or keyboard) and an output device 450 (*e.g.*, a computer monitor).

          The processor 410 communicates with a storage device 430. The storage device 430 may comprise any appropriate information storage device, including combinations of  
15           magnetic storage devices (*e.g.*, a hard disk drive), optical storage devices, and/or semiconductor memory devices such as Random Access Memory (RAM) devices and Read Only Memory (ROM) devices.

          The storage device 430 stores a program 415 for controlling the processor 410. The processor 410 performs instructions of the program 415, and thereby operates in  
20           accordance with the present invention. For example, the processor 410 may arrange for advertising information to be displayed to a user.

          The program 415 may be stored in a compressed, uncompiled and/or encrypted format. The program 415 may furthermore include other program elements, such as an operating system, a database management system, and/or device drivers used by the  
25           processor 410 to interface with peripheral devices.

          As used herein, information may be “received” by or “transmitted” to, for example: (i) the user device 400 from another device; or (ii) a software application or module within the user device 400 from another software application, module, or any other source.

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As shown in FIG. 4, the storage device 430 also stores an advertisement database 500. One example of a database that may be used in connection with the user device 400 will now be described in detail with respect to FIG. 5.

Advertisement Database

5 Referring to FIG. 5, a table represents the advertisement database 500 that may be stored at the user device 400 according to an embodiment of the present invention. The table includes entries identifying advertisements that might be provided via the output device 450. The table also defines fields 502, 504, 506, 508, 510 for each of the entries. The fields specify: an advertisement identifier 502, advertisement content 504, an  
10 advertisement rule 506, time information 508, and position information 510. The information in the advertisement database 500 may be created and updated, for example, based on information received from an advertising controller 140 (*e.g.*, on a nightly basis).

The advertisement identifier 502 may be, for example, an alphanumeric code  
15 associated with an advertisement that might be displayed to a user. The advertisement content 504 might comprise, for example, a pointer indicating from where advertisement information (*e.g.*, text, graphic, audio, and/or executable information) can be retrieved or the information itself. The advertisement rule 506 might indicate when the advertisement should be provided to the user (*e.g.*, based on a keyword or URL).

20 According to some embodiments, the time information 508 indicates a delay between the time when the advertisement rule 506 is satisfied and the time when the advertisement should be displayed. For example, an advertisement might be displayed to a user twenty seconds after he or she visits a particular web site. Such a delay could help a user realized that the advertisement is not being provided by the web site he or she is  
25 currently viewing.

Moreover, according to some embodiments the position information 510 indicates where the advertisement should be displayed. For example, FIG. 6 illustrates a user display 600 according to some embodiments of the present invention. In this case, the position information 510 indicates one of nine positions that can be used to display an

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advertisement to the user. In this way, an advertising application 114 or advertising controller 140 might dynamically adjust where an advertisement is positioned (*e.g.*, to improve results).

Additional Embodiments

5           The following illustrates various additional embodiments of the present invention. These do not constitute a definition of all possible embodiments, and those skilled in the art will understand that the present invention is applicable to many other embodiments. Further, although the following embodiments are briefly described for clarity, those skilled in the art will understand how to make any changes, if necessary, to the above-  
10 described apparatus and methods to accommodate these and other embodiments and applications.

          According to some embodiments, the advertising controller 140 generates reports indicating the keywords and/or URLs that have been accessed by users (*e.g.*, so that the information can be provided to advertisers).

15           According to other embodiments, the advertising application 114 can change the browser header for an advertisement (*e.g.*, at the top left corner of a browser window). The advertising application 114 might also have an advertisement to appear on top of all other browser windows on a user's desktop. According to still other embodiments, the advertising application 114 has the ability to set the style in which an advertisement will  
20 display. This might include, for example, wipe left, wipe right, pixelate, mosaic, tile, etc.

          According to some embodiments, the advertising application 114 serves advertisements inside a browser window. According to other embodiments, the advertising application 114 can serve advertisements in browser helper objects, plug-in applications (*e.g.* a toolbar) and/or a "free floating" banner.

25           The present invention has been described in terms of several embodiments solely for the purpose of illustration. Persons skilled in the art will recognize from this description that the invention is not limited to the embodiments described.